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**NUTRITION**

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## Nutrition Education: Policies and Programs

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### Introduction

Public debate about the adequacy of national nutrition education programs has been under way for several decades. National policy study groups have been critical of both the public and the private sectors for failing to serve the American consumer effectively. Most frequently cited problems are (1) lack of clear-cut goals, (2) reliance on ineffective strategies, (3) limited audience "reach," (4) lack of coordination, (5) message inconsistency among competing programs, (6) failure to evaluate, and (7) lack of public participation.

Public interest in food, diet, and health is growing. Opinion surveys conducted by Federal agencies and private organizations point to rising consumer demand for nutrition information and to expectations that the Federal Government will provide it. The types of information consumers say they want are: How to eat well on less money; how to avoid foods with harmful ingredients; how to plan "balanced" meals; ideas for healthful snacks; and, above all, according to a recent Yankelovich survey (April 1978), information on diet and health (42). Expanding demand, however, is accompanied by dissatisfaction with the ways nutrition information is delivered to the public and, in the words of Yankelovich, "the rigidity of traditional nutrition concepts."

Four trends are cited here as evidence of the need to redesign tradi-

tional nutrition education approaches:

(1) Change in scientific knowledge of nutrition and food-diet-health relationships; (2) change in consumption practices; (3) change in foods available to consumers and consumer exposure to information about products; and (4) increasing diversity of lifestyles, values, and practices apparent in our population.

The science of nutrition has undergone a knowledge expansion. One has only to compare the first (1943) and the most recent (1974) editions of the Recommended Dietary Allowances of the Food and Nutrition Board, National Research Council-National Academy of Sciences, to become aware of the progress in knowledge of nutritional requirements. In addition, the complex relationships between food, diet, and health command increasing attention in the research literature with each passing decade. National nutrition and health surveys have identified the prevalent nutrition-related problems of the U.S. population: Iron-deficiency anemia, obesity, dental caries, and diet-linked chronic diseases. These problems are suggestive of a need to redefine the goals of nutrition education, from traditional emphasis on getting enough to eat to prevent deficiency diseases to selection of "nutrient-dense" foods and avoidance of excessive consumption.

Consumption patterns have undergone dramatic changes. From 1960 to 1977, annual per-capita consumption of total sugars (sugar and sirups) increased about 22

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Dr. Light's publications include a cookbook, *In Praise of Vegetables* (Scribners), and a monograph, "Nutrition Education Curricula: Relevance, Design, and the Problems of Change" (UNESCO). Her current research interests include the application of communication, education, and behavior research methodologies to the study of nutritional behavior and nutrition education.

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pounds, or about 18 pounds on a dry basis. Consumption of meat, fish, and poultry increased by about 45 pounds and fats and oils about 10 pounds, while consumption of fresh fruits and grain products decreased. What this has meant, nutritionally, is that despite mounting public health concern about obesity, dental disorders, and dietary factors associated with chronic disease, percapita consumption of food energy is now higher than in 1960 and more fats and sugars are providing this food energy (31).

Most of the increase in dietary sugars is attributable to increased use of sugars and sirups in processed foods and beverages rather than to more frequent use of sugar in the household. The increase in dietary fat is due to greater consumption of salad and cooking oils and meat.

These dietary changes parallel a rapid expansion in our domestic supply of food products. In the last 20 years, there has been more than a tenfold increase in the number of food products available to the public, more product variations within product lines, and more product categories within foodstores. Today, the consumer can choose among an average of 12,000 food products divided among 24 product categories in the supermarket. Is it any wonder that national surveys find consumers be-

wildered by the nutritional and other qualities of products? Growth in the food industry has been accompanied by growth in the complexity and sophistication of food marketing and advertising practices which emphasize, by and large, the nonnutritional properties of food products.

The rapid rise of the fast-food industry is a symptom of lifestyle changes in our population with important implications for consumption patterns. Out-of-home eating and snacking is on the increase, reflecting a higher proportion of single and two-person households in our population, the phenomenon of more working wives and mothers, and a more affluent youth contrasted with greater numbers of elderly who have limited social and economic resources. Marketers recognize the diversity of consumption patterns and lifestyles characteristic of our population and attempt to design product campaigns which will appeal to specific segments. "Segmentation" of the public on the basis of differing concerns, attitudes, activities, and practices has been carried on only to a limited extent in national nutrition education programs.

The purpose of this edition of *Nutrition Program News* is to analyze major issues related to delivery of nutrition education which have been raised by critics



and to examine approaches which have been suggested as having potential for improving nutrition education programs.

### Policy Issues

In September of 1977, the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition of the House of Representatives began public oversight hearings to investigate Federal nutrition education efforts. Witnesses included representatives of leading scientific and consumer organizations, the communications industry, education and consumer research institutions, State and local governments, and community groups with a broad spectrum of constituencies. Testimony indicated that while consumers want and need reliable information about food, diet, and health, current Federal programs are not adequately providing this information.

Reports prepared for the Subcommittee by the Library of Congress, the American Association of Advertising Agencies, and the U.S. General Accounting Office (GAO) (38) provided evidence that while a profusion of pamphlets and brochures has been produced on the subject of food and nutrition, most have limited circulation and, according to critics, have low appeal to the public. Community programs were criticized as having low visibility and "reach" and being highly variable in quality, reflecting weak Federal leadership and low priority at State and local levels.

Despite a public investment of more than \$70 million annually and activities by 30 Federal agencies, the Federal role in nutrition education was reported to lack clear goals and a workable strategy. "It is disappointing but necessary to conclude," in the words of the Subcommittee Chairman, Congressman Frederick W. Richmond, "that newspapers, radios, television, popular books, magazines, and food wrappers do more to influence food habits in the United States than the combined efforts of the Federal Government" (27).

### Public Demand

There is growing public concern about the safety and healthfulness of many foods and products. There is uncertainty as to

which guidelines to follow to improve dietary patterns. Educators are reluctant to move beyond concepts that have been the basis of consumer and nutrition programs for the general public for many decades. Among these, the concepts of a balanced diet, eating a variety of foods, and consuming foods daily from the four basic food groups are best known. These concepts, while still viable nutritionally, fail to provide answers to questions frequently asked by consumers: How many eggs should I eat each week? Will nitrites in bacon give me cancer? Should I avoid animal products? Is it safe to lose weight by fasting? Are color additives dangerous to my children's health? These and other questions are inspired by commentaries in the news media and the realities of shopping in the supermarket and eating "fast foods."

In the public policy arena, there is some agreement that nutrition education is a worthwhile activity; but beyond that, differences arise over the definition of nutrition education, responsibility for programs, and the most appropriate purposes, methods, and approaches.

According to the American Dietetic Association (1), nutrition education is the process by which beliefs, attitudes, environmental influences, and understandings about food lead to practices that are scientifically sound, practical, and consistent with individual needs and available food resources. The problem, however, is that we know relatively little about effective ways of influencing nutritional beliefs and attitudes or the best ways to foster development of practices which are nutritionally sound. A brief review of current Federal nutrition education programs reveals the relatively limited numbers of approaches which have been used in national programs and the paucity of evaluation efforts to determine their effectiveness.

### Federal Nutrition Education Efforts

Nutrition education is one of several Federal strategies applied to the improvement or maintenance of good dietary practices. Other nutrition improvement strategies include income supplements to

assure that an adequate diet is affordable; health services to prevent, diagnose, and treat disease; and supplemental food and feeding programs to provide opportunities for "vulnerable" groups, such as children, pregnant women, and the elderly, to acquire and consume a proper diet. Nutrition education is not a substitute for other nutrition interventions, but it is an important component of feeding and income supplement programs as it supports and extends the benefits offered by these programs.

Nutrition education activities of the Federal Government are of two kinds: information "transfer" to the general public and community (informal) education and counseling of special or "vulnerable" groups. Activities tend to be independently conducted by different agencies, with limited coordination of messages or activities. In only 1 of the 30 Federal programs in which nutrition education activities are conducted has a systematic attempt been made to evaluate the effectiveness of efforts or the impact on practices of target groups. Evaluation of USDA's Expanded Food and Nutrition Education Program (EFNEP) has been carried out because of a legislative directive. This program is administered by USDA's Science and Education Administration (SEA)-Extension to improve dietary patterns of low-income families.

### Information Transfer Programs

Information transfer programs are based on the premise that lack of information is a basic barrier to dietary improvement. Virtually all Federal programs directed at nutrition education of adult consumers in good health with incomes above the poverty level conform to this type. According to the GAO, a total of 417 pamphlets, brochures, and bulletins are available on food, diet, and nutrition from the Federal Government. A majority of these publications are technical or semitechnical materials designed for use of professionals or specialists, although most are available on request to the general public (37).

Informational materials in published form include a wide variety of topics, from "Food and Your Weight" (USDA) to

"Feeding Infants and Toddlers" (HEW) to "Food Is More Than Just Something to Eat" (a joint production of HEW, USDA, Grocery Manufacturers of America, Inc., and the Advertising Council, Inc.). Informational materials are distributed in three ways: through the Government Printing Office (GPO) in Washington, D.C., by the Consumer Information Center (CIC) in Pueblo, Colo., or, to a limited extent, directly from sponsoring agencies.

### Community Nutrition Education

Community education and counseling programs are based on the recognition that in order to improve dietary practices, many factors--including biological, geographical, psychological, sociological, religious, and economic considerations--must be assessed and possibly modified. These approaches require the direct, motivational presence of a "change agent," someone who understands the contexts in which consumers live and can mediate the process by which consumers (1) recognize that a benefit is to be derived from altered behavior, (2) acquire the information needed to make the change, (3) become motivated and gain the skill and self-assurance necessary to practice new behaviors, and (4) experience the benefits derived from long-term change.

Methods used in community nutrition education programs include one-on-one counseling, group instruction, demonstration and lecture, and group discussion. Change agents include professional health and nutrition specialists, home economists, health educators, consumer leaders, and community aides. Most Federal programs aimed at "vulnerable" or "high-risk" adults use community education approaches. Examples are USDA's SEA-Extension programs and the Food and Nutrition Service's WIC (Women, Infants, Children) program.

Five categories of community nutrition efforts in the field are:

- (1) Nutrition education integrated in food and nutrition improvement programs, such as WIC, EFNEP, and the National Nutrition Program for the Elderly.

- (2) Nutrition education combined with



various formal education programs, such as Head Start, nutrition and training aspects of School Lunch, and programs to support nutrition in medical, allied health, and teacher education.

(3) Nutrition counseling combined with health intervention programs, such as Maternal and Infant Care and Child and Youth.

(4) Nutrition education in consumer food and home economics programs, such as those of the State Cooperative Extension Service.

These programs differ from information transfer activities in that they involve direct, face-to-face contact between program leaders and recipients which allows for the development of rapport. Efforts are targeted toward specific segments of the population known to be in need of nutritional improvement. Although face-to-face efforts have been criticized as costly and limited in "reach," they have been shown to be modestly effective in influencing change in food practices.

Informal education efforts are considered to be more flexible than impersonal information-transfer strategies. They can be designed to be far more sensitive to the interests and problems of specific groups than multimedia campaigns, for example. However, these approaches are weakened by lack of reinforcement for change in the home environment from which learners come and to which they return after completion of the educational experience. Pressures in the home and in the social world continue to exact conformity to habitual food usage patterns, despite the best intentions of change agents. Some programs, such as Head Start, recognize this problem and attempt to "educate" parents as well as children and other influential people in the "program community." Experimental programs which have used mass media and community education approaches as part of a comprehensive nutrition strategy have proved to be more successful in changing food practices than either approach used independently (19, 26). This success has been attributed to the effectiveness of these programs in influencing the "social environment" as well as the target learners.

## Research as a Policy-Guidance Tool

Research to improve nutrition education effectiveness is sorely needed. According to a draft report by the Office of Science and Technology Policy (OSTP) of the White House (23), minimal Federal funds have been invested in nutrition education research over the past several decades. It is not possible to identify the amount of money spent on nutrition education research by the Federal Government, but both the OSTP and Office of Technology Assessment of the Congress agree that it is a trivial figure. Federal priority has been placed on program implementation rather than research designed to offer nutrition education options to policymakers. One result of this is an opinion among some agency administrators that nutrition education is ineffective and a waste of program dollars which might be better spent on food, feeding, or health services. From a political point of view, provision of food, health services, or income has more public appeal than information or education programs. However, public appeal can be stimulated by recognition that community education programs have the potential for reducing the need for costly Federal interventions to improve the health and nutrition of the public.

In recent years, demands have grown that Government provide more nutrition information to consumers. The reasoning offered is that more information will allow consumers to make better choices in our increasingly complex marketplace. Nutrition labeling is one example of an information program developed to aid consumers to make better food choices based on nutritional characteristics of products. Labeling, however, was developed to serve two masters--regulatory requirements for product standardization as well as communication of information. Surveys indicate that while consumers want nutrition labeling, there is little evidence that they widely use it. Consumers show limited comprehension of the U.S. Recommended Daily Allowances (U.S. RDA) and their use. Another barrier to the application of nutrition information by consumers is the limited ability of adults to process large amounts of product information. In fact, research

reveals that consumers use an extremely limited number of product characteristics as the basis for purchase decisions. No more than three or four product characteristics appear to be considered at any one time; for example, price, brand, package size, and calorie content. Whether or not it is possible to "train" consumers to use the percentage of the U.S. RDA for eight nutrients as additional purchase criteria has been questioned. It is not known whether consumers can or do use a greater number of decision criteria in meal planning or other food experiences.

Before massive new information dissemination activities are undertaken by Federal agencies, it would be useful to explore:

- (1) What motivates consumers to seek nutrition information?
- (2) What is the impact of new nutrition information on the decision process resulting in food choice?
- (3) What types of additional information will be most useful to consumers?
- (4) What are the best ways and places for providing new information?
- (5) What are the different information needs of consumers with distinctive life styles and orientations?

Presently, the National Science Foundation is supporting research into the nature of information processes that consumers use in food-purchase decisions. A series of studies in progress at two major universities is investigating the impact of different information formats on purchase decisions and the potential for improving decisionmaking by altering the "decision environment." For example, researchers are investigating whether consumers are better able to select products on the basis of nutritional qualities when wall charts are posted in stores which rank-order similar products by their nutritive values.

New techniques for tracing cognitive processes, such as computer-controlled recording of eye movements and use of information display boards, allow researchers to analyze the factors consumers consider in food-purchase decisions. Research of this type can answer vital

questions, such as: What are the major inhibiting factors preventing consumers from using professionally produced nutrition information? What information is being used, and in what ways? What can be done to change the decision environment in such ways as to enhance the use of professional information? What is the role of memory and information storage on food decisions? How can school and community programs provide useful basic knowledge? And, when will provision of information make the most difference in the ultimate quality of food-purchase decisions?

Investigations of these types are traditional in the fields of consumer psychology and sociology but have been applied only to a limited extent to nutrition education. Task analysis examines the nature of a task as a subject (consumer) perceives it and allows study of the problem facing consumers when a decision must be made. This analysis provides understanding of the resources the consumer uses in the decision process and the constraints which limit the nature of decisions. Russo (28) and Jacoby (13) have shown that consumers make inferior product choices for two main reasons: They cannot use relevant information that is available and/or the information that is needed is not readily available. An example of the former is the reported inability of consumers to use percent U.S. RDA information on nutrition labels. An example of the latter is not knowing the nutritional value of basic commodities, such as unprocessed fruits and vegetables, which, at present, are not labeled. A third possible explanation is that consumers reject information which they find to be irrelevant.

Beyond a better understanding of the types of information useful in decision-making and the ideal time to provide this information, research can identify organization and presentation factors which make use of nutrition information easier for consumers. How many attributes of different products can be considered at any one time in an individual's decision process? What prior information experiences (training) enable consumers to use new decision factors without undue increase in the investment of effort or time



required to perform these operations? What situational influences stimulate use of new nutrition information? Policymakers, armed with the answers to these questions, can determine which nutrition information options are most efficient and cost-effective.

### Improving Nutrition Education Effectiveness

A recent national and international review of current practice of nutrition education by the Agency for International Development (26) indicates that enough is known about community education, mass communications, and behavioral change to develop highly effective and efficient national programs of nutrition education. Strategies which could be used in national nutrition education programs include multimedia campaigns, public marketing methods, and community outreach techniques. Cooke (20) and others have demonstrated these approaches to be both effective and cost-efficient in reaching a mass audience.

These techniques have been used successfully by voluntary organizations such as the American Heart Association and the National Foundation-March of Dimes, and by some food industry trade organizations. The Potato Board, for example, has reported success in its multimedia nutrition information campaign to improve consumer acceptance of the potato as a nutritionally valuable food. Until now, Federal agencies have not made use of multimedia information delivery as part of food and nutrition intervention programs. However, both USDA and HEW have indicated that plans for such activities are under way currently.

### "Marketing" Nutrition Education

The nutrition educator faces a dual task:

- (1) To extend and support consumer learning leading to diet improvement or maintenance.
- (2) To generate interest in food, diet, and health in order to raise the level of demand for nutrition information.

Many public-interest groups rely on the development of "marketing" strategies to stimulate or "modulate" demands so as to

maintain a predetermined level of public desire for products, services, and information. Marketing specialists identify eight different stages of consumer demand:

- (1) Negative Demand--most potential users of a product or service dislike it and avoid it.
- (2) Nonexistent Demand--consumers are indifferent or uninterested in an offering.
- (3) Latent Demand--majority of people share a need for something which does not yet exist as a product or service.
- (4) Faltering Demand--demand is less than its highest level and, without vigorous promotion efforts, can be expected to continue to decline.
- (5) Irregular Demand--seasonal or other swings in demand arise which are not timed to the supply capability of an organization.
- (6) Full Demand--level and timing of demand are in accord with the desired level and timing of demand.
- (7) Overfull Demand--demand outpaces an organization's capability or motivation to supply it.
- (8) Unwholesome Demand--positive demand is seen as excessive because it is inimical to the public's welfare.

Currently, the demand for nutrition information is growing. Surveys show that approximately 70 percent of consumers have moderate-to-high interest in nutrition information. What can agencies responsible for nutrition information do to regulate the level, timing, and character of demand for their information "products"? Is the current demand for nutrition information below, equal to, or above the ideal demand level? Each potential answer evokes a need for a specific communications response to the situation.

Information demand, like product development, is thought to move through a natural life cycle: from low, burgeoning demand to a high peak to faltering and falling demand levels. For example, interest in a booklet or poster swells through early periods of distribution and promotion and ultimately wanes. The task of the nutrition education "marketer" is to monitor and develop the promotion and distribution methods which conform to a desired level and rhythm of demand. When

demand reaches the level of full maturity, the job may be to maintain interest and demand. As interest declines and fades, it may be necessary to consider either reshaping or remaking a resource or a program. This developmental approach to nutrition education requires investments in planning and testing of information strategies, design activities such as writing and layout of materials, and targeted promotion to specified audiences to increase awareness of the availability of informational resources.

### The Art and Technology of Promotion

The use of promotional strategies in programs is to arouse demand for the products of an organization. Whether these products are goods, services, or information, without attention to promotion, products fail to gain public attention.

There are a large number of promotional tools which can be used to stimulate interest and motivate information seeking behavior. These tools are broadly classified as:

(1) Advertising Techniques--promotion of ideas, goods, or services by identified sponsors through nonpersonal, paid (or public service) brief, persuasive messages in popular media.

(2) Publicity--the "planting" of important news or information about a product or sponsor by favorable (unpaid) attention given to it in popular media (radio, TV, newspaper columns).

(3) Personal Contact--word-of-mouth promotion of the value of a product from users and promoters to potential users in communities.

(4) Incentives--the offering of incentives (products of value) as an added advantage to reward a behavioral response considered desirable.

(5) Atmospherics--the design of "the place of purchase"; that is, the setting in which information or education takes place, in such a way as to enhance information processing or the emotional response of consumers to products, services, or resources.

Objections to including promotional activities as an integral part of Federal nutrition education programs include added

cost, negative commercial overtones, and restrictive definitions of the task (focus on the cognitive needs of consumers without attention to motivation).

As the major source of reliable nutrition information for the consumer, Government's ultimate goal is to aid consumers in improving or maintaining good dietary practices. In order to do this, Government information programs must maximize accessibility, utility, and appeal of information resources. Two policies consistent with this goal which call for different information strategies are:

(1) To have available in readily useful forms for all who want it, information on the nutritive composition of foods and the relationship of food to health.

(2) To promote interest in, desire for, and use of informational resources by the public in order to improve dietary behavior.

The former exemplifies the nutrition information objectives traditionally used by Federal agencies mandated to serve the general public. The latter illustrates the approach recommended by critics of current Federal efforts, who say that our present-day communications environment calls for aggressive Federal programs capable of competing for the attention of consumers in an information- and persuasion-saturated environment.

### Policy Implications

The new Farm Bill (Public Law 95-113), Food and Agriculture Act of 1977, passed September 29, 1977, assigns lead-agency status to the USDA in human nutrition except for biomedical aspects related to the diagnosis and treatment of disease. The Farm Bill also calls for a national nutrition education program. It is not entirely clear what legislative intent impelled this provision of the bill, but it is safe to assume that the purpose was new, expanded, and more innovative initiatives.

The language of the Agricultural Research and Education Act (Title XIV) in the bill speaks to the need for efforts to inform the public about dietary practices which reduce the risks of degenerative diseases. This represents a dramatic



departure for many programs for the general public, including those of USDA. It means a change of emphasis from guidance designed to prevent insufficient consumption to major emphasis on dietary prudence, safeguarding against excessive or imbalanced consumption.

### Unresolved Issues

Transformation from a nutritional philosophy that "more is better" to one that holds "less may be better" will require consensus as to suitable and desirable levels and ranges of diet elements. What are safe and appropriate levels of total fat, saturated, monounsaturated and polyunsaturated fatty acids, cholesterol, total and animal protein, total and refined carbohydrate, dietary fiber, and sodium for consumers in good health at different developmental stages with varying lifestyles? How can diets be designed for caloric control and nutritional adequacy? How can population segments with inadequate diets be reached if national goals define dietary limits for some elements? Are the data bases for nutritive composition of foods and for research relating to diet and disease adequate for establishing new dietary recommendations? These questions and many more will need answers before the mandate of the Farm Bill can be fulfilled.

### Toward a New Nutrition Education

Recommendations to improve the Federal role in nutrition education are not new. In the post-World War II period, the U.S. Office of the Budget, precursor to the Office of Management and Budget, issued carefully drawn proposals to maintain the coordination of Federal, voluntary, and private-sector nutrition education programs and to link activities between local, State, and Federal levels. Two memorable developments resulted from this high-level interest in the subject. First, Federal support was initiated for State Nutrition Councils to provide a permanent, coordinating "house" for nutrition education activities. Second, the Federal Inter-agency Committee on Nutrition Education was created; the Committee was abolished in 1973 because of legislation prohibiting

use of funds for interagency groups without specific Congressional budgetary approval.

In recent years, recommendations for improving nutrition education programs have appeared in numerous professional and public documents, including the proceedings of the White House Conference on Food, Nutrition, and Health (1970), the Senate Select Committee's National Nutrition Policy Study (1974), and the National Nutrition Consortium Position Paper on Nutrition Education (38). These recommendations generally address the following points:

- (1) Need for the fullest participation of consumers in planning and implementation of nutrition education programs.

- (2) Greater stress on the problems of excessive or unbalanced consumption associated with chronic disease and less on dietary inadequacies which are increasingly rare in our population.

- (3) Attention to motivation of the public as well as providing factual information.

- (4) Reporting and evaluation requirements for all nutrition education programs for which Federal funds are authorized.

- (5) More flexibility and innovativeness in approaches to nutrition education, both at the community and national levels.

- (6) Improved coordination and cooperation among nutrition education programs, Federal, voluntary, or privately sponsored.

- (7) Positioning of nutrition information and education programs in accessible and identifiable places in communities to improve public access (i.e., the point of purchase, the home TV screen, the daily or Sunday newspaper).

- (8) Emphasis on "outreach," especially for groups hard to reach, such as the poor, the elderly, the working wife and mother, single adults, and teenagers.

- (9) Pretesting and fieldtesting of all communication and information materials to assure high levels of comprehensibility, acceptability, and practical usefulness.

- (10) Development of Centers of Excellence at leading universities to conduct research and demonstration activities vital to improvement of national efforts in nutrition education.

(11) Support for the education and training of food and consumer leaders, health professionals, teachers, and others pivotal in counseling the public about food, diet, and health.

(12) Widespread and creative use of mass media, with special emphasis on television.

(13) Consumer and market research to identify high-priority nutrition issues and opportunities for motivating public use of Federal nutrition education programs.

(14) Extending nutrition education to food and health writers, food marketers, radio and TV commentators, and others in direct contact with large segments of the public.

(15) Development of food selection guidance material appropriate for the diversity of food lifestyles now apparent in our population (i.e., the "snacker," the one-or-two-meal eater, the dieter, the vegetarian).

(16) Use of campaign approaches to reach specific groups or population segments known to be in need of diet improvement.

### Implications for Nutrition Educators

The literature in this country and the developing world confirms that well-planned nutrition education programs are effective in improving the nutritional quality of diets. Consumers, alarmed at reports of diet and disease relationships, are looking to nutritionists for practical information and clear-cut guidelines. Scientists do not agree as to what types of food practices are most likely to prevent degenerative diseases or how information about diet and disease should be developed for different population seg-

ments. A more sophisticated and diversified system of food and diet guidance appears needed, individualized for the dietary and nutritional characteristics of different groups.

Community nutrition educators have an exceptional opportunity to demonstrate the potential of nutrition education for improving the national health. To accomplish this, programs must be designed to assist consumers with the specific food dilemmas they confront daily in the food environment. Consumers must be viewed both as clients and partners. The concepts, language, and formats of information must be comprehensible, appealing, and practically useful. This is unlikely to occur without greater consumer participation in development and testing of materials and greater reliance on the knowledge and talents of communications and behavior experts.

Goals must be articulated for programs in terms which consumers as well as professionals accept. Efforts must be made to evaluate programs and to adjust program directions to suit changing social and nutritional needs.

From a national perspective, there needs to be better coordination. Despite the fact that programs are assigned to different agencies with special constituency and client groups, Congress and the public tend to view the reach and effectiveness of programs in terms of how well they meet the needs of the total population. While our agencies and institutions require strict adherence to categorical program guidelines, as professionals we have an obligation to work toward better overall integration and coordination of services, both at the local and the Federal level.

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